

Take it or leave it for something better? Responses to fair offers in ultimatum bargaining

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RUNNING HEAD: RESPONSES TO FAIR OFFERS

Take It or Leave It for Something Better?

Responses to Fair Offers in Ultimatum Bargaining.

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Abstract

We investigated if responders accept a 50-50 split in a modified version of the ultimatum game, in which rejection yields a higher payoff (€7) than accepting the equal offer (€5). Therefore, the decision to accept the 50-50 split in this modified ultimatum game cannot be perceived as a self-interest act, as opposed to the standard game, in which acceptance may reflect resignation in the knowledge that the equal split is the best one can expect. A substantial proportion of responders accepts the equal split in this modified game (Study 1), which clearly establishes egalitarian preferences. Further studies show that the willingness to accept is not an artifact of indifference towards the extra payoff (Study 2), but reflects true concerns for proposers' outcomes (Study 3).

Keywords: decision making; ultimatum games; inequality aversion; non-selfish motives; social utility; other-regarding preferences; reciprocity.

Take It or Leave It for Something Better?

Responses to Fair Offers in Ultimatum Bargaining.

People expect norms of fairness to prevail even in arenas that are often considered to be governed by the rational laws of economics, such as commercial and business transactions and negotiations about prices and salaries (Kahneman, Knetsch, & Thaler, 1986a; 1986b). In plain language this expectation would imply that other people are not merely concerned with obtaining the best personal outcome when they make salary offers or rent proposals, but that they also take into consideration the opponent. In economics terms it would imply that other people are not strictly self-interested but have *other-regarding preferences* as well, meaning that they value the outcomes of others. In the present paper we test to what extent such expectations are tenable.

The influence of other-regarding preferences on people's decisions are commonly studied in research on ultimatum bargaining. The ultimatum game (Güth, Schmittberger, & Schwarze, 1982) models the final step of negotiations in which one player (the proposer) offers a proportion of some commodity to another player (the responder) who in turn decides whether or not to accept this offer. If accepted, the commodity is distributed as proposed. If rejected, both players receive nothing. Results from ultimatum bargaining research consistently violate assumptions of self-interest, which prescribe that people should offer and accept the minimal positive amount. In fact, offers are usually close to a 50-50 split (Camerer & Thaler, 1995). However, seemingly fair offers may be instigated by a desire to avoid rejection (e.g., Fellner & Güth, 2003; Kagel, Kim, Moser, 1996; Van Dijk, De Cremer, & Handgraaf, 2004; for an overview, see Pillutla & Murnighan, 2003). Indeed, offers of less than 30% of the pie are frequently rejected. Proposers may anticipate this, from which one

could conclude that it is ambiguous whether non-selfish concerns underlie ultimatum offers. Still, it seems that rejection of unequal offers clearly indicates other-regarding preferences on behalf of the responder, for if responders were strictly self-interested they would accept any positive amount.

Nevertheless, perspectives diverge on the precise nature of the other-regarding preferences exhibited by responders' decisions in ultimatum bargaining. Prevailing views range from simple inequity aversion on the one hand, to strong egalitarianism and a true concern for other people's outcomes on the other. In the following we will briefly outline these different views and argue that studying decisions in the standard ultimatum game is unlikely to reconcile them. We then report three experiments using a modified version of the ultimatum game in which responders' decisions are not confounded by the ambiguities that prevent the characterization of other-regarding preferences in the standard ultimatum game.

Rationale for a Modification of the Ultimatum Game

There are several reasons why responders' decisions in the ultimatum game are not necessarily indicative about the underlying motives for acceptance or rejection. First of all, it is not entirely clear what evokes *rejections of unequal offers*. Models of inequality aversion propose that responders not only care about their absolute payoff but also about their relative payoff compared to that of the proposer (Camerer & Thaler, 1995). In psychological terms this means that they engage in some form of social comparison to determine the value of an offer (Loewenstein, Thompson & Bazerman, 1989; Messick & Sentis, 1979, 1985). For instance, Bolton and Ockenfels (2000; see also, Bolton, 1991; Fehr & Schmidt, 1999) argue that if a responder gets less than half the pie, the tendency to reject will increase as the proportion of his share compared to that of the proposer decreases. So, a responder

prefers €2,- from a €5,- pie over €2,- from a €10,- pie. This perspective however, does not account for the fact that responders are willing to accept even very small offers that are randomly generated, whereas they reject the same offer when chosen deliberately by a proposer (Blount, 1995). This implies that responders' decisions not only incorporate social comparison, but also attributions of intentionality (cf., Rabin, 1993). Rejections of unequal offers thus seem to reflect more than a simple distaste for inequality and to involve principles of reciprocity in the sense that responders punish unfair behavior.

Still, it has been argued that fairness or egalitarian concerns are not the operative mechanism underlying rejections of unequal offers, but that responders dislike being the targets of unfair behavior because it hurts their pride. In line with this view, anger appeared to be a better predictor of rejection than perceptions of unfairness (Pillutla & Murnighan, 1996). It is therefore argued that unfairness is often merely invoked post-hoc as a reason for rejection (Straub & Murnighan, 1995), but that instead of a response to a normative violation, the rejection of unequal offers is actually a spiteful reaction. Still, anger is a common response to perceived unfairness (e.g., Fehr & Fishbacher, 2004; Haidt, 2003) and it is impossible to objectively disentangle moral anger and spite in the ultimatum game.

In order to demonstrate that true egalitarian concerns underlie the rejection of unfair offers, one needs to demonstrate strong reciprocity on behalf of responders in ultimatum bargaining. Models of strong reciprocity (e.g., Falk, Fehr, & Fishbacher, 2005) argue that people will not only punish unkind behavior but that they will also reward acts of kindness. It is not possible to test this in the standard ultimatum game either, because it also remains unclear what evokes *acceptance of equal offers*.

Because the negotiation is about a fixed pie, own and others' outcomes are perfectly

(but negatively) correlated in the ultimatum game. Hence motives are not easily deducted from a positive response to any positive offer. Accepting a 50-50 split may simply reflect resignation in the knowledge that a higher offer cannot be expected. Hence, accepting an equal split does not exclude a selfish motive in the standard ultimatum game and therefore does not necessarily reflect strong reciprocity.

In order to establish strong reciprocity and thereby a true egalitarian preference while at the same time exclude the possibility that accepting a 50-50 split reflects self-interest, we investigated responders' decisions in a modified version of the ultimatum-game. In this game, responders who reject an offer receive an outside option that is larger (€7) than the amount they receive when accepting the equal split (€5 of a €10 endowment). Hence, in terms of self-interest rejection is always the best option. The amount responders forfeit by accepting the offer (i.e., €2) can be considered a fairness premium. This modified version of the ultimatum game *does* allow for identification of true concerns for egalitarianism on behalf of the responder.

Identifying True Egalitarianism

The present paper reports a series of studies investigating how people respond to a 50-50 split in the modified ultimatum game. In Study 1, we investigated *if* responders were willing to incur a fairness premium by accepting an equal offer (of €5), thereby foregoing an outside option of €7. The fact that it is actually costly and therefore clearly not in the responder's self-interest to accept the equal split presents the primary element of support to the idea that at least a subset of responders shows true egalitarian concerns. Nevertheless, it could be the case that responders accept the equal split because they are indifferent to the extra payoff of €2. We took two measures in our first study in order to exclude that possibility. Firstly, we investigated the impact of social value orientations on responders' acceptance rates (McClintock,

1972). Social value orientations refer to stable preferences for outcome distributions between oneself and another person. A general distinction is made between proselves and prosocials. Whereas proselves are predominantly motivated to maximize their own outcome, prosocials seek to maximize equality of outcomes (Van Lange, 1999). Given this dispositional tendency, we expected that prosocials would be more likely to accept the 50-50 split than proselves, thereby identifying the decision to accept the equal split in our modified version of the ultimatum game as instigated by true egalitarian preferences.

To bolster that interpretation, we measured anticipated emotions in Study 1. Specifically, we measured anticipated *regret over accepting* and anticipated *guilt over rejecting* the 50-50 split. Regret is a response to a personal outcome that would have been better if one had made a different decision (Loomes & Sugden, 1982; Zeelenberg & Pieters, 2007). If the difference between acceptance and rejection depends on different levels of anticipated regret, in such a way that responders who accept the offer are the ones that expect less regret from foregoing €2, this means that the responders' decision depends on considerations about personal utility. Guilt on the other hand is a so-called moral emotion (Frank, 2004; Haidt, 2003), experienced in response to someone else's concerns. Anticipated guilt over rejection then, implies that responders take the proposers' payoff into consideration when deciding to accept or not. Consistent with the idea that concerns for the other (and not about personal payoffs) determine the decision of prosocial responders, we predicted that prosocials who accepted the offer would anticipate more guilt over rejection (but not less regret over accepting) than prosocials rejecting the offer. We predicted the opposite for proselves. We thus excluded the possibility that greater acceptance was simply the result of prosocial responders caring less about foregoing 2 euro's.

Study 1: Acceptance Rates of Prosocials and Proselfs

To summarize, in Study 1 we investigated if responders in an ultimatum game have true egalitarian concerns by showing that (a) they are willing to forego a larger personal payoff in order to accept an equal offer, (b) the tendency to do so is more pronounced for responders that have a dispositional tendency to strive for equal outcomes (i.e., for prosocials), and (c) that the decisions to accept or reject of prosocial responders indeed depends on non-selfish motives (i.e., is associated with differences in anticipated guilt over rejection), and does not depend on considerations about personal payoffs (i.e., is not associated with anticipated regret over acceptance).

Method

Procedure. Participants ($N = 80$, 86% female, $M_{\text{age}} = 20.03$ years) came to the lab in groups of 8 – 10 people and were seated in individual cubicles. They received written instructions and completed measures by paper and pencil. In all studies, participants learned they were going to engage in an interaction with a fellow student. In this interaction, they were assigned to play the role of the responder. The other student was given the role of proposer. Role allocation ostensibly occurred at random.

The proposer would make an offer to divide 10 euros. Then, the responder (our participants) could decide to accept the offer or not. If accepted, the money was divided as proposed. Participants were told that if they rejected the offer, the responder would receive nothing, but they would then receive 7 euros for themselves. The responders were explicitly told that the proposer was unaware of this outside option. In all studies, participants believed they were presented a real offer made by another person whose outcome actually depended on their decision. In reality, all participants were responders faced with the decision to either accept the 50-50 split (i.e., €5) or to take the (higher) outside option (of €7)¹.

Measures. We used the Triple Dominance Measure to assess social value orientations (Van Lange, Otten, De Bruin, & Joireman, 1997). This measure consists of a series of nine decisions in which participants indicate their preference for one (out of three) prescribed distributions of points between themselves and someone else. Each distribution corresponds to one of the main interpersonal orientations discerned by the integrative model of social value orientations (Van Lange, 1999), namely, prosocial, competitive, and individualistic. The latter are usually combined as proselves. Participants were classified as proself ($N = 27$) or prosocial ($N = 42$) based on at least six consistent choices. Eleven participants could not be classified.

Next, participants indicated (1 = *not at all*, 7 = *very much*) to what extent they would feel “*guilty if you would reject an equal offer*” and “*regret if you would accept an equal offer.*” In order not to arouse suspicion, we asked these questions for all possible offers. Here we only report the emotions pertaining the equal split.

Decisions. After approximately five minutes the experimenter entered the cubicle with an envelope containing a slip of paper. On this paper, the proposer had ostensibly written down his offer to divide the 10 euros equally. The paper contained checkboxes to either accept or reject. Participants were left alone to mark their decision, after which they exited the cubicle and handed the envelope back to the experimenter. Participants were immediately paid in accordance with their decision.

Results and Discussion

A substantial proportion (55%) of responders was willing to forfeit a larger outcome to accept an equal split, and thus exhibited egalitarian preferences. (Acceptance rates of the 50-50 offer across all studies are summarized in Table 1.) As we predicted, prosocials were more likely to forfeit the outside option than proselves, $\chi^2(1, N = 69) = 5.83, p = .016$, which reflects the difference in preference for equal

distributions that discerns both personality types. So, responders who put more value on equal outcomes (i.e., prosocials) are more likely to forfeit a larger gain than proselves, who are mainly concerned with their own outcome. This links the willingness to accept to individual differences in preferences for equality.

We also measured anticipated guilt over rejection and regret over accepting the 50-50 offer for participants with different value orientations (see Figure 1). One-way ANOVA's revealed that as expected, prosocial responders who accept the equal split and those who rejected, differed in levels of anticipated guilt $F(1, 42) = 10.62, p = .003$. Prosocials that accepted the offer stated they would feel more guilty over rejecting than those that actually did reject the offer. Proselves did not differ in the level of anticipated guilt, $F(1, 27) = 1.78, p = .19$, but did so in the level of anticipated regret over acceptance, $F(1, 27) = 4.87, p = .034$. Proselves that accept reported lower levels of regret over doing so than those that reject the equal split. Prosocials do not differ in the level of anticipated regret, $F(1, 42) = 1.37, p = .252$. So as expected, non-selfish concerns (reflected by feelings of guilt) rather than indifference towards the extra payoff underlie prosocials' decisions to accept, whereas calculations of personal payoffs (reflected in feelings of regret) underlie the decision of proselves.

Study 2: Indifference Towards the Outside Option?

In Study 2 we sought to establish further support to the notion that acceptance was not the result of indifference towards the forfeit amount. Hereto, we increased the size of the outside option from €7 to €9, thus *doubling* the amount discarded in case of acceptance. If utilitarian considerations play a significant role, than the willingness to accept the 50-50 split should decrease when the outside option is twice as large.

Method

Seventy-one undergraduate students (78% female, $M_{\text{age}} = 21.26$ years)

participated in this study. Procedures were identical to those in Study 1, as was the presentation of the ultimatum and the decision to accept or reject the equal split. Half the participants learned they would receive €7 in case of rejection, the other half learned they would receive €9. The only other difference with Study 1 was that in this (and the next study) we used 'watered-down' incentives, paying a randomly selected subset (20%) of participants, as was explained in advance.

Results and Discussion

The results from Study 2 showed that the equal split was not accepted out of indifference to the outside option. We compared acceptance rates if responders had an outside option of €7 or one of €9. If considerations about personal payoff influenced the decision to accept or reject the equal split with a 7-euro outside option, doubling the forfeited amount should have affected acceptance rates, which it did not, $\chi^2(1, N = 71) = .35, p = .553$. This suggests that true egalitarian preferences rather than self-interested considerations underlie the decision to accept or reject offers in the modified version of the ultimatum game. In the next study we directly tested whether responders sacrifice the more profitable outside option and accept an equal offer out of genuine concerns for the proposer's payoff.

Study 3: Varying the Consequences of Rejection

To test this, we varied the consequences of rejection to the proposer. We specified different percentages of the original offer that proposers would still receive in case of rejection (cf. Fellner & Güth, 2003). As this percentage increases, the proposers' outcome is less affected by the responders' decision. As a result, rejection will not harm the proposer as much and consequently, responders need not be as concerned with the proposer, because the payoff to the proposer is ensured under low dependency. If there is less need to take the payoff to the proposer into account,

utilitarian considerations will predominate (cf. Van Dijk, & Vermunt, 2000) and responders will be less likely to accept the equal split.

Method

Participants ($N = 98$, 80% female, $M_{\text{age}} = 20.71$ years) were randomly assigned to one of three conditions, differentiated by the potential *harm* to the proposer in case of rejection. The conditions were based on a percentage of the original offer proposers would still receive in case of rejection. Thus we differentiated a *high* (10%), *medium* (50%), and *low* (90%) *harm* condition. Instructions to this study simply mentioned that (instead of receiving nothing at all) proposers would still receive a percentage of their original offer in case of rejection. Procedures were otherwise identical to those in Study 1, as was the presentation of the ultimatum and the decision to accept or reject the equal split.

Results and Discussion

The acceptance rates were clearly affected by the level of potential harm, $\chi^2(2, N = 98) = 8.96, p = .011$. Responders in the high-harm (10%) condition were only 1.5 times ($p = .54$) more likely to accept the 50-50 split than responders in the medium-harm (50%) condition, $\chi^2(1, N = 56) = .37, p = .543$, but were 4.4 times more likely to accept than responders in the low-harm (90%) condition, $\chi^2(1, N = 77) = 7.93, p = .005$. This confirms our expectation that responders will choose the advantageous outside option as soon as proposers concerns are no longer at stake. This is in line with the idea that a genuine non-selfish concern underlies the preference for egalitarian outcome distributions in our modified version of the ultimatum game.

General Discussion

We have argued that the standard ultimatum game is not fit to identify the nature (e.g., inequity aversion, spite, or true egalitarianism) of the other-regarding

preferences exhibited by responders decisions to reject unequal offers or to accept equal ones. In order to investigate whether responders in ultimatum bargains show true concerns for egalitarianism, we investigated their decisions in a modified version of the ultimatum game that presented responders with an outside option that was larger than their payoff from accepting the equal split. Accepting the 50-50 offer in this modified version of the ultimatum game therefore, cannot not be perceived as a self-interested act. A substantial proportion of responders was willing to accept an equal split, even it implied foregoing a larger payoff.

These studies show that this willingness arises from a desire to attain equal outcomes rather than indifference towards the extra gain. In Study 1 we found that prosocial responders with a dispositional tendency to value equal outcomes were more likely to accept the 50-50 split, which links the willingness to forfeit the extra payoff to personality characteristics associated with egalitarianism. Moreover, the decision to accept or reject the equal split was related to levels of guilt over rejection anticipated by prosocial responders. Prosocials that accepted anticipated higher levels of guilt over rejection than the ones that did not accept the offer. As feelings of guilt arise in response to other people's concerns, this also indicates that decision to accept the equal offer is not the outcome of considerations pertaining personal payoffs.

The results from Studies 2 and 3 also favored an explanation in terms of egalitarian considerations over one of indifference. In Study 2 we doubled the amount sacrificed by accepting the equal offer, which did not affect acceptance rates. This suggests that at least for some responders, the decision to accept or reject an equal offer is not strictly determined by motives to maximize personal gain. Only if proposers still received a substantial proportion of the proposed amount in case of rejection, hence if responders could no longer harm proposers by rejecting their

offers, only then did acceptance rates decrease (Study 3). This shows that concerns of personal payoff start to dominate decisions to accept or reject only if egalitarian concerns are no longer at stake. (Note that in the low harm condition [90% of offer retained in case of rejection] outcomes are still considerably similar: €4,5 and 7.)²

We wish to draw attention to several characteristics of the presently applied paradigm that were crucial to obtain the present findings. First of all, our results seem to stand in stark contrast with previous findings on the effects of outside options. Generally, outside options induce a self-serving bias about what constitutes a fair offer (Knez & Camerer, 1995; but see, Handgraaf, Van Dijk, Wilke & Vermunt, 2003). Consequently, responders with an outside option find they are entitled to a larger part of the pie. If the responder has an outside option, this generally evokes higher offers from proposers, yet the same offer is also more likely to be rejected (Kahn & Murnighan, 1993; Schmitt, 2004). And offers that falls short of the outside option are always rejected (Pillutla & Murnighan, 1996). So why then did we find that offers that were lower than the outside option were still likely to be accepted?

Our research differs from previous research in two important ways. First, in our studies, responders react to equal offers, not to unequal ones. Another important feature of our version of the ultimatum game that differs from previous studies is that the proposer was ostensibly unaware of the outside option to the responder. Both factors precluded an immediate dismissal of the offer as unfair. To start with the latter, if the outside option to the responder would have been common knowledge, some responders may have required the proposer to take their sacrifice into account (cf. Kahn & Murnighan, 1993; Pillutla & Murnighan, 1996). This may have stretched perceptions about what would have constituted a fair offer beyond the equal distribution, perhaps resulting more rejections of the 50-50 split.

However, the most crucial aspect of the present paradigm is the fact that responders reacted to an equal distribution. Even though the 50-50 split did not necessarily mean that the proposer had fair intentions (the underlying consideration could still be to avoid rejection), there was no a-priori ground for responders to feel shortchanged, which is apt to be a precondition for instigating a willingness to accept the offer. It seems then that responders are only likely to accept the equal split and thereby forgo a better personal outcome if they think the equal split is the result of fair intentions on behalf of proposer. It is unlikely that an equal offer that is randomly generated instead of intentionally chosen (cf. Blount, 1995) will be accepted at personal costs. Why would one reciprocate an offer that is not intended to be fair?

The present findings illustrate the importance of fairness norms even in financial negotiations between anonymous parties (cf. Kahneman et al., 1986a; 1986b). In that sense they resonate with other studies (e.g., Fehr & Rockenbach, 2003) that show that in interdependence situations, initial non-selfish acts stand a good chance of being positively reciprocated, which is ultimately to the advantage of both parties. It appears then that the norm of self-interest, which is claimed to obstruct individual efforts in the common interest (e.g., Miller, 1999) may easily erode in the face of behavior that violates the assumption that people only seek to better their personal interest. This could be an important realization as the modified version of the ultimatum game bears relevance to negotiations in which the proposing party does not so much make an offer but rather a *plea* to the responding party. As such, the responder's decision in the modified ultimatum game resembles for instance the decision of the European union to accept new countries as members. To most member states, admission of new countries that are often less economically developed, bears a short term cost in terms of net cash flow. The present findings suggest that new

countries stand a good chance of being accepted if they a commitment to comply with standards and regulations, both financial and/or ethical. Similarly, a sports team may be inclined to allow a new member that is less skilled, if this person is willing to put in a fair amount of exercise and training to improve his skills. In general then, our findings carry the positive outlook that fair intentions may be honored, even if the receiving person or party lacks clear incentives for doing so.

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Footnotes

¹ Because on average only 50% of the proposers offer an equal split (cf. Camerer & Thaler, 1995), we decided on using prefixed offers in order not to waste resources. (Note that relying on real offers would not only have implied the loss of 50% of the offers, but also would have rendered half the sample of participants of no use to testing our research questions.) In some research disciplines outside experimental social psychology, the use of such deceptive strategies is not generally condoned. We stress, however, that in no way did the use of deception in the present studies undercut the validity of the reported findings. Extensive post-experimental probing did not reveal suspicion on behalf of our participants about the reality of the interaction.

² We thank an anonymous reviewer for bringing this to our attention.

Table 1

Percentage of Responders Accepting the 50-50 Split

Study 1:		Study 2:		Study 3:		
Responders' Social Value Orientation		Size of Outside Option		Retained Amount in case of Rejection (<i>harm</i>)		
Prosocials	Proselfs	€7	€9	10%	50%	90%
66.7	37.0	46.9	53.1	82.9	76.2	52.4

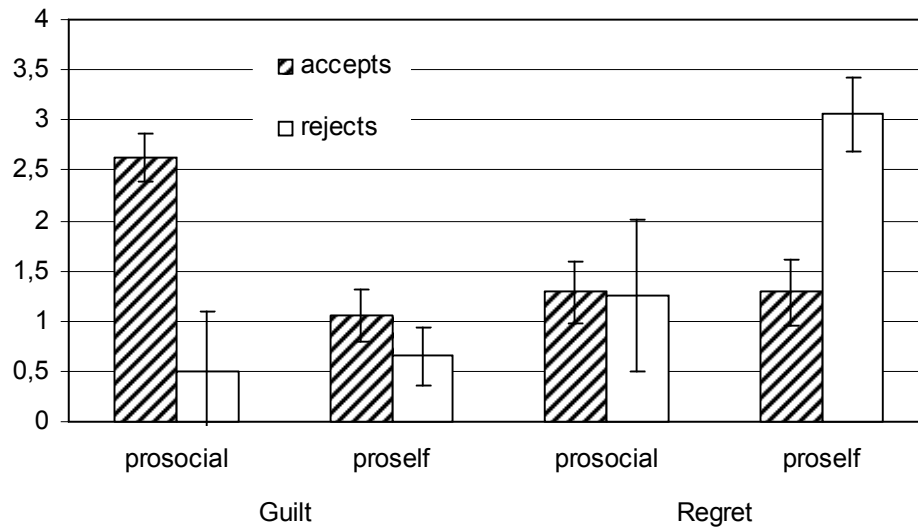


Figure 1. Mean ratings (+/- SE) of anticipated guilt (over rejection) and regret (over acceptance) of the 50-50 split by prosocials and proselfs in Study 1.